ABSTRACT OF THE INVENTION

A radio network control node that determines the transmit power of a common or shared downlink transport channel regulates that power based on one or more factors. The downlink transmit power regulation makes common downlink transport channel transmissions more efficient and effective in terms of delivering services to users, maximizing capacity, and reducing unnecessary interference. Examples of one or more factors that may be considered in regulating the transmit power on a common transport channel include (but are not limited to) include one or more measurements made by the user equipment of received downlink transmissions such as received signal strength, signal-to-interference ratio, error rates like bit error rate and block error, etc. Other potential factors could include current conditions in the cell such as traffic volume and percentage of maximum base station transmit power currently being used. The service(s) requested for each common transport channel user may also be taken into account. The controlling radio network node for the user connection uses one or more of these factors to adapt the downlink transmit power of the common transport channel. That power level adaptation may occur directly or indirectly via another radio network controller or base station node. The transmit power on the common transport channel may be regulated in general, per user connection, block-by-block, etc.